AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for partitioning of proteins or cells in aqueous two-phase systems (ATPS), comprising the steps of

a) in order to obtain a fusion protein or cell, combining a protein or a cell of interest with a targeting protein selected from the group consisting of hydrophobins, and hydrophobin-like proteins ~~and parts thereof~~ having the ability to partition in ATPS and to carry said protein or cell of interest into one phase of said ATPS, and

b) subjecting said fusion protein or cell ~~carrying~~ combined with the targeting protein to an ATPS-mediated protein separation.

2. (Cancelled).

3. (Currently Amended) The process according to claim 1, wherein the hydrophobin is a *Trichoderma* hydrophobin ~~or a part thereof~~.

4. (Currently Amended) The process according to claim 3, wherein the *Trichoderma* hydrophobin is HFBI, HFBII or SRHI~~, or a part thereof~~.

5. (Currently Amended) The process according to claim 1, wherein the

hydrophobins or hydrophobin-like proteins ~~or parts thereof~~ form aggregates.

6. (Withdrawn) The process according to claim 1 for partitioning cells in ATPS, wherein in step a) the combination of the cells of interest to the targeting protein comprise bringing said targeting protein onto the surface of said cells.

7. (Withdrawn) The process according to claim 6, wherein the cells are yeast cells.

8. (Withdrawn) The process according to claim 6, wherein the cells are spores.

9. (Withdrawn) The process according to claim 6, wherein the targeting protein is fused to a protein which brings the targeting protein onto the surface of the cell.

10. (Currently Amended) A fusion protein, comprising

a hydrophobin or hydrophobin-like protein, ~~as defined in claim 3~~ fused to a protein of interest, wherein said hydrophobin or hydrophobin-like protein has the ability to partition in ATPS and to carry said protein of interest into one phase of said ATPS.

11. (Previously Presented) The fusion protein according to claim 10, wherein the

protein of interest is a cell bound protein or a part of said cell bound protein.

12. (Previously Presented) The fusion protein according to claim 10, wherein the protein of interest is an extracellular protein or a part of said extracellular protein.

13. (Original) The fusion protein according to claim 12, wherein the extracellular protein is an extracellular protein of *Trichoderma,* selected from the group consisting of cellulases, hemicellulases and proteases.

14. (Previously Presented) The fusion protein according to claim 10, wherein the protein of interest is an antibody protein or a part of said antibody protein.

15. (Currently Amended) The process according to claim 1, wherein the targeting protein is fused to the protein of interest ~~according to claim 10~~.

16. (Withdrawn) A recombinant organism producing a fusion protein according to claim 10.

17. (Withdrawn) A recombinant organism, wherein the organism has been genetically modified to produce a fusion protein according to claim 10.

18. (Previously Presented) A recombinant DNA molecule, comprising a DNA molecule encoding a fusion protein according to claim 10.

19. (Currently Amended) A process for producing a fusion protein ~~according to claim 10~~ with recombinant organisms, said fusion protein comprising

a hydrophobin or hydrophobin-like protein, fused to a protein of interest, wherein said hydrophobin or hydrophobin-like protein has the ability to partition in ATPS and to carry said protein of interest into one phase of said ATPS, said process

comprising the steps of

a) transforming the organism with DNA molecules enabling expression of the fusion protein, and

b) recovering the fusion protein from the culture of the recombinant organism.

20. (Previously Presented) The process according to claim 1, wherein the aqueous two-phase system is selected from the group consisting of PEG/salt, PEG/Dextran and PEG/starch systems, detergent-based aqueous two-phase systems and thermoseparating polymer systems.

21. (Previously Presented) The process according to claim 20, wherein the

detergent-based aqueous two-phase system comprises a detergent which is selected from the group consisting of nonionic and zwitterionic detergents.

22. (Previously Presented) The process according to claim 20, wherein the thermoseparating polymer system comprises a polymer which is a polyethylene-polypropylene copolymer.

23. (Previously Presented) The process according to claim 1, wherein the protein or cell of interest is separated from a suspension containing cells or cell extracts.

24. (Currently Amended) A process for separating hydrophobins or hydrophobin-like proteins ~~or parts thereof~~ in aqueous two-phase systems, comprising the steps of

a) mixing solutions containing said hydrophobin, or hydrophobin-like protein ~~or parts thereof~~ with the phase forming chemicals, and

b) carrying out ATPS separation,

wherein the aqueous two-phase system is as defined in claim 20.

25. (Previously Presented) The process according to claim 1, wherein said targeting protein is not a peptide tag of 12 amino acids or less.

26. (Previously Presented) The process according to claim 1, wherein said targeting protein does not contain tryptophan.

27. (Cancelled).

28. (New) A process for partitioning of proteins or cells in aqueous two-phase systems (ATPS), comprising the steps of

a) in order to obtain a fusion protein or cell, combining a protein or a cell of interest with a targeting protein selected from the group consisting of hydrophobins, hydrophobin-like proteins and parts thereof having the ability to partition in ATPS and to carry said protein or cell of interest into one phase of said ATPS, provided that said targeting protein is not a peptide tag of 12 amino acids or less, and

b) subjecting said fusion protein or cell combined with the targeting protein to an ATPS-mediated protein separation.